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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/705,237	BOHNENBERGER, OLIVER
	Examiner	**Art Unit**	
	Gerald C. Vizvary	3694	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>11/12/2003</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-48</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-48</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☒ All b) ☐ Some * c) ☐ None of:

    1. ☒ Certified copies of the priority documents have been received.

    2. ☒ Certified copies of the priority documents have been received in Application No. <u>10/705,237</u>.

    3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>1/30/2004</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

The following is a non-final office action in response to the communications received on

11/12/2003. Claims 1-48 are now pending in this application.

Information Disclosure Statement

1.   The information disclosure statement (IDS) submitted on 1/30/2004 was

considered by the examiner.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

3.   Claims 3 & 28 recite the limitation "ECN" .There is insufficient antecedent basis

for this limitation in the claim. For purposes of prosecution, the examiner will rely on the

definition given in wikipedia.org for ECN in relation to stocks; For stock, ECNs exist as a

class of SEC-permitted Alternative Trading Systems (ATS). As an ATS, ECNs exclude

broker-dealers' internal crossing networks – i.e., systems that match orders at the

broker-dealer using prices from an exchange, without actually sending the order to a

public venue. (http://en.wikipedia.org/wiki/Electronic_Communication_Network)

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Lozman, US 5,689,651 in view of Broka 5,809,483.

As per **claim 1,** Lozman, US 5,689,651 shows a processor-implemented, method of

filtering market data generated at a market place, for providing real-time trading status

information, the method comprising:

providing a plurality of listings, each listing associated with a corresponding market

place and traded at the associated market place ("In summary, the present invention is

directed to a device for processing and displaying financial market data corresponding

to user selected primary and secondary symbols having a programmable computer with

a display." Lozman, US 5,689,651 Col. 1 lines 64-67) and ("It is still another object of

the present invention to provide a system for the real time processing and displaying of

financial market data into a form which increases a trader's performance." Lozman, US

5,689,651 Col. 1 lines 36-39);

providing a set of filter criteria suitable for filtering market data to determine the trading

status information ("The Router Object 202 parses incoming data, filters unwanted data,

and sends data corresponding to the primary and secondary symbols on to a Symbol

Object 208-220 and the Calculator Object 204. The Calculator Object 204 monitors the

primary and secondary symbols and calculates a user-determined scalar value or metric

based on them which can be used to signal the Angle of Attack Indicator 82 (FIG. 2)."

Lozman, US 5,689,651 Col. 6 lines 36-43);

receiving market data for at least one listing of the plurality of listings associated with a

specific market place ("A communication device is connected to the computer for

receiving the financial data from an external data source. The programmable computer

includes software that allows the user to select the primary and secondary symbols from

the financial market data." Lozman, US 5,689,651 col. 1, line 67-Col. 2, line 5); and ("It

is still another object of the present invention to provide a system for the real time

processing and displaying of financial market data into a form which increases a trader's

performance." Lozman, US 5,689,651 Col. 1 lines 36-39)

Lozman fails to specifically teach providing, in real-time, the status information

indicating whether trading of the at least one listing has been suspended or resumed at

the specific market place and

filtering the received market data in accordance with the set of filter criteria to

determine in real-time, whether trading of the at least one listing has been suspended or

resumed at the specific market place

Broka 5,809,483 teaches "The Authorize Participant window 5100 also allows an

authorizer to set dates and times a participant is suspended from trading and can

resume trading in particular issues by selecting the Times button 5170 from window

5100. In response to the authorizer selecting button 5170, FIPS displays Default Times

window 5300 shown in FIG. 53. The authorizer enters a particular issue in field 5310.

The authorizer then enters a suspend date and time in fields 5321 and 5322,

respectively. A resume date and time may also be entered by the authorizer in fields 5330 and 5331, respectively. The field 5340 displays the current status of the issue. Once the authorizer has entered the desired information, he selects the Add button 5360 for the information to be processed by FIPS host 210." (Broka 5,809,483 col. 24 lines 1-13)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Lozman, US 5,689,651 to include the suspension and resume functions of Broka 5,809,483 483 to maintain a journal log of trade activities ("BQDS journal file containing BQDS message formats, and a Corporate Bond Compliance System (CBCS) log file. The CBCS log file includes trade reports and updates, quotes and updates, trading halts and resumptions, suspensions and activations, participant updates, and dealer registrations." Broka 5,809,483 col. 7 lines 42-47)

As per **claim 2**, Lozman, US 5,689,651 further shows a method of claim 1, wherein the received market data is real-time market data. ("It is still another object of the present invention to provide a system for the real time processing and displaying of financial market data into a form which increases a trader's performance." Lozman, US 5,689,651 Col. 1 lines 36-39)

As per **claim 3**, Lozman, US 5,689,651 further shows a method of claim 1, wherein the market place is a financial, stock, derivatives or commodity exchange, ECN or any other market place that generates market data subjected to electronic dissemination ("Turning

to FIG. 6, logic begins at start block 310 indicating the beginning of routine Router

Object on Receipt of Data. Test 312 compares the market data for a specific

commodity, stock, bond or currency from the external data source with the data required

for each of the user selected primary and secondary symbols." Lozman, US 5,689,651

Col. 7 lines 23-28)

As per **claim 4**, Lozman, US 5,689,651 further shows a method of claim 1, wherein the

providing of the plurality of listings comprises: providing a plurality of dual listings, each

dual listing associated with a primary market place and a secondary market place and

traded at the primary and secondary market places ("The programmable computer

includes software that allows the user to select the primary and secondary symbols from

the financial market data. The software also displays the financial data corresponding to

the selected primary symbol within the central portion of the display and displays the

financial data corresponding to the selected secondary symbols within a peripheral

portion of the display. The software also updates the data corresponding to the selected

primary and secondary symbols." Lozman, US 5,689,651 Col. 2 lines 2-11)

As per **claim 5**, Lozman, US 5,689,651 further shows a method of claim 4, wherein the

received market data is received for at least one dual listing of the plurality of dual

listings associated with a specific primary market place representing the specific market

place. ("It is still another object of the present invention to provide a system for the real

time processing and displaying of financial market data into a form which increases a

trader's performance. It is yet another object of the present invention to provide a system which periodically updates displayed market data." Lozman, US 5,689,651 Col. 1 lines 36-41) and ("The program P (see FIG. 4), among other things, continuously receives, stores and updates specific market information from EDS 10, organizes information, and efficiently displays in accordance with the present invention textual and graphic information of particular interest to a user." Lozman, US 5,689,651 Col. 3 line 64- col. 4 line 2)

As per **claim 6**, Lozman, US 5,689,651 shows a method of claim 5, wherein the providing of the status information comprises: providing to the secondary market place, in real-time ("The present invention is directed to a specifically programmed computer display system to improve a trader's performance in security or commodity transactions. The system is integrated with an on-line, real time, securities or commodities related information database managed by an external organization. It is from this database that vital information on past and current market conditions is continuously communicated to the system." Lozman, US 5,689,651 Col. 3 lines 22-30)

Lozman fails to explicitly show, the status information indicating whether trading of the at least one dual listing has been suspended or resumed at the specific primary market place

Broka 5,809,483 teaches "The Authorize Participant window 5100 also allows an authorizer to set dates and times a participant is suspended from trading and can resume trading in particular issues by selecting the Times button 5170 from window

5100. In response to the authorizer selecting button 5170, FIPS displays Default Times window 5300 shown in FIG. 53. The authorizer enters a particular issue in field 5310. The authorizer then enters a suspend date and time in fields 5321 and 5322, respectively. A resume date and time may also be entered by the authorizer in fields 5330 and 5331, respectively. The field 5340 displays the current status of the issue. Once the authorizer has entered the desired information, he selects the Add button 5360 for the information to be processed by FIPS host 210." (Broka 5,809,483 col. 24 lines 1-13)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Lozman, US 5,689,651 to include the suspension and resume functions of Broka 5,809,483 483 to maintain a journal log of trade activities ("BQDS journal file containing BQDS message formats, and a Corporate Bond Compliance System (CBCS) log file. The CBCS log file includes trade reports and updates, quotes and updates, trading halts and resumptions, suspensions and activations, participant updates, and dealer registrations." Broka 5,809,483 col. 7 lines 42-47)

As per **claim 7**, Lozman, US 5,689,651 shows a method of claim 1, wherein the set of filter criteria comprises at least one of:

a filter criteria for filtering the market data to determine a market type ("The Router Object 202 parses incoming data, filters unwanted data, and sends data corresponding to the primary and secondary symbols on to a Symbol Object 208-220 and the Calculator Object 204. Lozman, US 5,689,651 Col. 3 lines 22-30); and

a filter criteria for filtering the market data to determine a data field of the market data to be filtered. ("It is a further object of the invention to provide such an exchange that provides filtering (e.g., filtering of bid information) to ensure compliance with predetermined criteria, to avoid unnecessary use of system resources and for other purposes." Lozman, US 5,689,651 Col. 2 lines 43-47)

Lozman, US 5,689,651 fails to explicitly show

a filter criteria for filtering the market data to determine occurrence of at least one predetermined trading suspension code; and

a filter criteria for filtering the market data to determine occurrence of at least one predetermined trading resume code;

Broka 5,809,483 teaches "The Authorize Participant window 5100 also allows an authorizer to set dates and times a participant is suspended from trading and can resume trading in particular issues by selecting the Times button 5170 from window 5100. In response to the authorizer selecting button 5170, FIPS displays Default Times window 5300 shown in FIG. 53." (Broka 5,809,483 col. 24 lines 1-6)

"The authorizer enters a particular issue in field 5310. The authorizer then enters a suspend date and time in fields 5321 and 5322, respectively. A resume date and time may also be entered by the authorizer in fields 5330 and 5331, respectively. The field 5340 displays the current status of the issue. Once the authorizer has entered the desired information, he selects the Add button 5360 for the information to be processed by FIPS host 210." (Broka 5,809,483 col. 24 lines 7-13)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Lozman, US 5,689,651 to include the suspension and resume functions of Broka 5,809,483 483 to maintain a journal log of trade activities ("BQDS journal file containing BQDS message formats, and a Corporate Bond Compliance System (CBCS) log file. The CBCS log file includes trade reports and updates, quotes and updates, trading halts and resumptions, suspensions and activations, participant updates, and dealer registrations." Broka 5,809,483 col. 7 lines 42-47)

As per **claim 8**, Lozman, US 5,689,651 further shows a method of claim 1, wherein the market data comprises a first plurality of codes from a multiplicity of available codes and at least one filter criteria of the set of filter criteria comprises a second plurality of codes from the multiplicity of available codes, and wherein the filtering of the received market data comprises ("The external quote data 200, the data characterizing financial markets received from the EDS 10 (FIG. 1), is initially processed by the Router Object 202. The Router Object 202 parses incoming data, filters unwanted data, and sends data corresponding to the primary and secondary symbols on to a Symbol Object 208-220 and the Calculator Object 204. The Calculator Object 204 monitors the primary and secondary symbols and calculates a user-determined scalar value or metric based on them which can be used to signal the Angle of Attack Indicator 82 (FIG. 2)" Lozman, US 5,689,651 Col. 6 lines 34-43):

comparing the codes of the first plurality of codes with the codes of the second plurality of codes to determine whether a match occurs. ("In step 520, the system determines if a

concluding event has occurred. This may be an expiration of time, by an exact match, by seller intervention, or any other suitable event. Once this occurs, the successful bidder is notified (step 525)." Lozman, US 5,689,651 Col. 8 lines 21-24).

As per **claim 9**, Lozman, US 5,689,651 shows a method of claim 8.

Lozman, US 5,689,651 fails to explicitly show that the codes of the second plurality of codes are trading suspension codes

Broka 5,809,483 shows codes of the second plurality of codes are trading suspension codes ("The Authorize Participant window 5100 also allows an authorizer to set dates and times a participant is suspended from trading and can resume trading in particular issues by selecting the Times button 5170 from window 5100. In response to the authorizer selecting button 5170, FIPS displays Default Times window 5300 shown in FIG. 53." Broka 5,809,483 col. 24 lines 1-6)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Lozman, US 5,689,651 in order for the CBCS log file to include trade reports and updates, quotes and updates, trading halts and resumptions, suspensions and activations, participant updates, and dealer registrations. (Broka 5,809,483 col. 7 lines 44-47)

As per **claim 10**, Lozman, US 5,689,651 shows a method of claim 8.

Lozman, US 5,689,651 fails to explicitly show that the codes of the second plurality of codes are trading resume codes.

Broka 5,809,483 shows codes of the second plurality of codes are trading suspension codes are resume codes. ("The authorizer enters a particular issue in field 5310. The authorizer then enters a suspend date and time in fields 5321 and 5322, respectively. A resume date and time may also be entered by the authorizer in fields 5330 and 5331, respectively. The field 5340 displays the current status of the issue. Once the authorizer has entered the desired information, he selects the Add button 5360 for the information to be processed by FIPS host 210." Broka 5,809,483 col. 24 lines 7-13)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Lozman, US 5,689,651 to include the suspension and resume functions of Broka 5,809,483 483 to maintain a journal log of trade activities ("BQDS journal file containing BQDS message formats, and a Corporate Bond Compliance System (CBCS) log file. The CBCS log file includes trade reports and updates, quotes and updates, trading halts and resumptions, suspensions and activations, participant updates, and dealer registrations." Broka 5,809,483 col. 7 lines 42-47)

As per **claim 11,** Lozman, US 5,689,651 further shows a method of claim 1, wherein the market data comprises a first plurality of codes from a multiplicity of available codes, at least one filter criteria of the set of filter criteria comprises a second plurality of codes from the multiplicity of available codes and at least one filter criteria of the set of filter criteria comprises a third plurality of codes from the multiplicity of available codes, and wherein the filtering of the received market data comprises: comparing the codes of the first plurality of codes with the codes of the second and third pluralities of codes to

determine whether a match occurs ("The difference of the current price LAST and the closing price CLOSE is calculated in block 366 the result being stored as CHANGE. Continuing with block 368, the Screen Display Symbol Object routine (FIGS. 9 and 10) is executed. Block 370 ends routine Symbol Object on Receipt of Data (LAST)." Lozman, US 5,689,651 Col. 8 lines 10-15).

As per **claim 12**, Lozman, US 5,689,651 shows a method of claim 11.

Lozman, US 5,689,651 fails to explicitly show that the codes of the second plurality of codes are trading suspension codes and the codes of the third plurality of codes are trading resume codes.

Broka 5,809,483 shows the codes of the second plurality of codes are trading suspension codes and the codes of the third plurality of codes are trading resume codes. ("The Authorize Participant window 5100 also allows an authorizer to set dates and times a participant is suspended from trading and can resume trading in particular issues by selecting the Times button 5170 from window 5100. In response to the authorizer selecting button 5170, FIPS displays Default Times window 5300 shown in FIG. 53. The authorizer enters a particular issue in field 5310. The authorizer then enters a suspend date and time in fields 5321 and 5322, respectively. A resume date and time may also be entered by the authorizer in fields 5330 and 5331, respectively. The field 5340 displays the current status of the issue. Once the authorizer has entered the desired information, he selects the Add button 5360 for the information to be processed by FIPS host 210." Broka 5,809,483 col. 24 lines 1-13)

It would have been obvious to one of ordinary skill in the art at the time of the invention

to modify the invention of Lozman, US 5,689,651 to include the suspension and resume

functions of Broka 5,809,483 483 to maintain a journal log of trade activities ("BQDS

journal file containing BQDS message formats, and a Corporate Bond Compliance

System (CBCS) log file. The CBCS log file includes trade reports and updates, quotes

and updates, trading halts and resumptions, suspensions and activations, participant

updates, and dealer registrations." Broka 5,809,483 col. 7 lines 42-47)

As per **claim 13**, Lozman, US 5,689,651 further shows a method of claim 1, wherein:

the market data comprises a plurality of codes from a multiplicity of available codes and

each filter criteria of the set of filter criteria comprises a subset of codes from the

multiplicity of available codes, and

the filtering of the received market data comprises:

comparing the codes of the plurality of codes with each subset of codes to determine

whether a match occurs; and

if, for a specific code of the plurality of codes, no match occurs, sending an alert

message to the specific market place indicating that an unknown code has been

received. ("The Router Object 202 parses incoming data, filters unwanted data, and

sends data corresponding to the primary and secondary symbols on to a Symbol Object

208-220 and the Calculator Object 204. The Calculator Object 204 monitors the primary

and secondary symbols and calculates a user-determined scalar value or metric based

on them which can be used to signal the Angle of Attack Indicator 82 (FIG. 2)." Lozman,

US 5,689,651 Col. 6 lines 36-43) and ("Continuing with block 424, the system determines whether this particular commodity information corresponds to the primary symbol as defined by the user. If it does not, block 444 ends routine Screen Display Symbol on Receipt of Paint Request." Lozman, US 5,689,651 Col. 9 lines 3-5)

As per **claim 14,** Lozman, US 5,689,651 further shows a method of claim 13, further comprising:

receiving an update message from the specific market place indicating the meaning of the specific code of the plurality of codes; and

updating the multiplicity of available codes using the update message. ("As a matter of general overall system performance (FIGS. 1-3), the user inputs the desired primary symbol and the desired secondary symbols. The EDS 10 is linked to the CPU 30. The data characterizing the financial markets is continuously transmitted to the CPU 30 enabling the program P to continuously monitor the data. When information regarding the user's primary or secondary symbols is encountered, the corresponding data is further processed by the program P, and the screen display 60 is generated or updated." Lozman, US 5,689,651 Col. 6 lines 16-25)

As per **claim 15**, Lozman, US 5,689,651 shows a method of claim 1.

Lozman, US 5,689,651 fails to explicitly teach qualifying the received market data to determine accuracy and correctness of the received market data.

Broka 5,809,483 teaches qualifying the received market data to determine accuracy and correctness of the received market data. ("Accordingly, a regulated, computerized bond trading system has been developed to gather quote and trade information from several bond traders and other users, and to organize and disseminate such information quickly and reliably." Broka 5,809,483 col. 1 lines 56-60).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Lozman, US 5,689,651 to include the verifying function of Broka 5,809,483 in order to avoid "relying on potentially outdated information transmitted by unreliable communication methods. As a result, the system is prone to errors and abuses." Broka 5,809,483 col. 1 lines 22-24).

As per **claim 16**, Broka 5,809,483 further shows the method of claim 15, wherein the qualifying comprises: qualifying the received market data to determine, whether a listing of the plurality of listings has been renamed. ("In either window, the display is preceded by host 210 retrieving the Symbol, Name, Rate, and Maturity Year for the issue selected from the Quote Book window 2000 or 2020. If the quote being modified is a bid, FIPS sets the price, size, and status for a bid label, such as label 2101 in FIG. 21(a)." Broka 5,809,483 col. 15 lines 26-31)

As per **claim 17**, Lozman, US 5,689,651 shows a method of claim 1.

Lozman, US 5,689,651 fails to explicitly teach monitoring market data supply of at least one selected market place to determine an occurring supply outage; and

providing in real-time, if a supply outage occurs, a corresponding indication of the occurring supply outage.

Broka 5,809,483 teaches ("More specifically, system for reporting the trading of debt issues has been developed which comprises a host processing system containing issue databases having information about debt issues available to be traded, and trade databases containing data about trades of the debt issues available to be traded;" Broka 5,809,483 col. 1 lines 61-64)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Lozman, US 5,689,651 to include monitoring market data supply of at least one selected market place to determine an occurring supply outage; and providing in real-time, if a supply outage occurs, a corresponding indication of the occurring supply outage "relying on potentially outdated information transmitted in order to in order to "provide an on-line system for trading securities which greatly enhances the transparency of the stock market, and thus improves the ability of traders to receive accurate and timely trade information." Broka 5,809,483 col. 1 lines 37-42)

As per **claim 18**, Broka 5,809,483 further teaches the method of claim 17, wherein the monitoring comprises: monitoring index information for the at least one selected marketplace; and if the index information is not received within a predetermined time interval, determining that a supply outage occurs. ("Window 1200 allows dealers to input the necessary information about a trade, including quantity, price, the other party to the

trade, the type of trade, the execution date and time of the trade, and the capacity of the

dealer." Broka 5,809,483 col. 11 lines 36-40)

It would have been obvious to one of ordinary skill in the art at the time of the invention

to modify the invention of Lozman, US 5,689,651 to include monitoring index

information for the at least one selected marketplace; and if the index information is not

received within a predetermined time interval, determining that a supply outage occurs

in order to "provide an on-line system for trading securities which greatly enhances the

transparency of the stock market, and thus improves the ability of traders to receive

accurate and timely trade information." Broka 5,809,483 col. 1 lines 37-42)

As per **claim 19,** Lozman, US 5,689,651 fails to explicitly show a method of claim 1,

further comprising: displaying, in real-time, the status information indicating whether

trading of the at least one listing has been suspended or resumed at the specific market

place.

Broka 5,809,483 teaches "The Authorize Participant window 5100 also allows an

authorizer to set dates and times a participant is suspended from trading and can

resume trading in particular issues by selecting the Times button 5170 from window

5100. In response to the authorizer selecting button 5170, FIPS displays Default Times

window 5300 shown in FIG. 53. The authorizer enters a particular issue in field 5310.

The authorizer then enters a suspend date and time in fields 5321 and 5322,

respectively. A resume date and time may also be entered by the authorizer in fields

5330 and 5331, respectively. The field 5340 displays the current status of the issue.

Once the authorizer has entered the desired information, he selects the Add button

5360 for the information to be processed by FIPS host 210." (Broka 5,809,483 col. 24

lines 1-13)

It would have been obvious to one of ordinary skill in the art at the time of the invention

to modify the invention of Lozman, US 5,689,651 to include the suspension and resume

functions of Broka 5,809,483 483 to maintain a journal log of trade activities ("BQDS

journal file containing BQDS message formats, and a Corporate Bond Compliance

System (CBCS) log file. The CBCS log file includes trade reports and updates, quotes

and updates, trading halts and resumptions, suspensions and activations, participant

updates, and dealer registrations." Broka 5,809,483 col. 7 lines 42-47)

As per **claim 20**, Lozman, US 5,689,651 shows a method of claim 1.

Lozman, US 5,689,651 fails to explicitly teach displaying, in real-time, an alert message

if it is determined that trading of the at least one listing has been suspended at the

specific market place.

Broka 5,809,483 teaches "Quote management is mainly concerned with updating bid

and ask prices. A quote in FIPS occurs when a user enters a bid and/or offer for a

particular bond into FIPS. FIPS' quote management functions include entering,

modifying, withdrawing, restoring, and removing quotes. Additional quote management

functions include monitoring quote activity, disseminating quote data, and setting market

alerts." (Broka 5,809,483 col. 5 lines 46-52)

It would have been obvious to one of ordinary skill in the art at the time of the invention

to modify the invention of Lozman, US 5,689,651 to include the suspension and resume

functions of Broka 5,809,483 483 to maintain a journal log of trade activities ("BQDS

journal file containing BQDS message formats, and a Corporate Bond Compliance

System (CBCS) log file. The CBCS log file includes trade reports and updates, quotes

and updates, trading halts and resumptions, suspensions and activations, participant

updates, and dealer registrations." Broka 5,809,483 col. 7 lines 42-47)

As per **claim 21**, Broka 5,809,483 further teaches the method of claim 20, wherein

displaying of the alert message comprises: creating a pop-up window for displaying the

alert message therein, the pop-up window being adapted to be closed only in response

to user interaction. ("Preferably, a user interfaces with the FIPS host 210 through a

standard GUI on the workstations 230 and 240. The GUI provides an easy-to-use

system having only the information to which the user is entitled based on its role. This

section describes the various user message windows for interfacing to the FIPS

system." Broka 5,809,483 col. 10 lines 36-41)

It would have been obvious to one of ordinary skill in the art at the time of the invention

to modify the invention of Lozman US 5,689,651 to include a processor further adapted

to create a pop-up window for displaying the alert message because " the pop-up

window being adapted to be closed only in response to user interaction, the pop-up

window for display on the display device in order to provide information about what the

workstation is doing. Question/warning messages warn users of potential errors and perform a "double check" with the user before an action takes place by requiring acknowledgment or rejection before the action may take place."(Broka 5,809,483 col. 10 lines 46-50)

As per **claim 22**, Lozman, US 5,689,651 further shows a method of claim 1, wherein the providing of the status information comprises:

providing a real-time market data information stream comprising the status information. ("It is still another object of the present invention to provide a system for the real time processing and displaying of financial market data into a form which increases a trader's performance." Lozman, US 5,689,651 Col. 1 lines 36-39)

As per **claim 23**, Lozman, US 5,689,651 shows a method of claim 1.

Lozman, US 5,689,651 fails to explicitly teach performing an audible alert if it is determined that trading of the at least one listing has been suspended at the specific market place.

Broka 5,809,483 teaches "When an issue is added, modified, or deleted, a News Alert is sent (at the Administrators discretion) to other users if Newsworthy field 5068 is selected." (Broka 5,809,483 col. 23 lines 16-18)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Lozman, US 5,689,651 to include an audible alert in order to

"bring greater transparency to the bond market so traders can have accurate and timely information in bond process and trades. 5,809,483 col. 1 lines 31-33)

As per **claim 24**, US 5,689,651 shows a method of claim 1.

Lozman, US 5,689,651 fails to explicitly teach attaching a flag to the received market data indicating a suspension of the at least one listing, if it is determined that trading of the at least one listing has been suspended at the specific market place.

Broka 5,809,483 teaches "The Authorize Participant window 5100 also allows an authorizer to set dates and times a participant is suspended from trading and can resume trading in particular issues by selecting the Times button 5170 from window 5100. In response to the authorizer selecting button 5170, FIPS displays Default Times window 5300 shown in FIG. 53. The authorizer enters a particular issue in field 5310. The authorizer then enters a suspend date and time in fields 5321 and 5322, respectively. A resume date and time may also be entered by the authorizer in fields 5330 and 5331, respectively. The field 5340 displays the current status of the issue. Once the authorizer has entered the desired information, he selects the Add button 5360 for the information to be processed by FIPS host 210." (Broka 5,809,483 col. 24 lines 1-13)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Lozman, US 5,689,651 to include the suspension and resume functions of Broka 5,809,483 483 to maintain a journal log of trade activities ("BQDS journal file containing BQDS message formats, and a Corporate Bond Compliance

System (CBCS) log file. The CBCS log file includes trade reports and updates, quotes and updates, trading halts and resumptions, suspensions and activations, participant updates, and dealer registrations." Broka 5,809,483 col. 7 lines 42-47)

As per **claim 25,** Lozman, US 5,689,651 shows a computer-readable medium comprising computer-executable instructions that, when executed on a computer, operate the computer to filter market data generated at a market place, for providing real-time trading status information, the computer-readable medium comprising computer-executable instructions for:

providing a plurality of listings; each listing associated with a corresponding market place and traded at the associated market place;

providing a set of filter criteria suitable for filtering market data to determine the trading status information;

receiving market data for at least one listing of the plurality of listings associated with a specific market place;

("In summary, the present invention is directed to a device for processing and displaying financial market data corresponding to user selected primary and secondary symbols having a programmable computer with a display. A communication device is connected to the computer for receiving the financial data from an external data source. The programmable computer includes software that allows the user to select the primary and secondary symbols from the financial market data. The software also displays the financial data corresponding to the selected primary symbol within the

central portion of the display and displays the financial data corresponding to the

selected secondary symbols within a peripheral portion of the display. The software also

updates the data corresponding to the selected primary and secondary symbols.

Lozman, US 5,689,651 Col. 1 line 64-col. 2 line 11)

Lozman US 5,689,651 fails to explicitly show filtering the received market data in

accordance with the set of filter criteria to determine in real-time, whether trading of the

at least one listing has been suspended or resumed at the specific market place; and

providing, in real-time, the status information indicating whether trading of the at least

one listing has been suspended or resumed at the specific market place.

Broka 5,809,483 teaches "The Authorize Participant window 5100 also allows an

authorizer to set dates and times a participant is suspended from trading and can

resume trading in particular issues by selecting the Times button 5170 from window

5100. In response to the authorizer selecting button 5170, FIPS displays Default Times

window 5300 shown in FIG. 53. The authorizer enters a particular issue in field 5310.

The authorizer then enters a suspend date and time in fields 5321 and 5322,

respectively. A resume date and time may also be entered by the authorizer in fields

5330 and 5331, respectively. The field 5340 displays the current status of the issue.

Once the authorizer has entered the desired information, he selects the Add button

5360 for the information to be processed by FIPS host 210." (Broka 5,809,483 col. 24

lines 1-13)

It would have been obvious to one of ordinary skill in the art at the time of the invention

to modify the invention of Lozman, US 5,689,651 to include the suspension and resume

functions of Broka 5,809,483 483 to maintain a journal log of trade activities ("BQDS

journal file containing BQDS message formats, and a Corporate Bond Compliance

System (CBCS) log file. The CBCS log file includes trade reports and updates, quotes

and updates, trading halts and resumptions, suspensions and activations, participant

updates, and dealer registrations." Broka 5,809,483 col. 7 lines 42-47)

As per **claim 26**, Lozman, US 5,689,651 shows a computer system for filtering market

data generated at a market place to provide real-time trading status information, the

computer system comprising:

a memory device for storing a plurality of listings, each listing associated with a

corresponding market place and traded at the associated market place("In summary,

the present invention is directed to a device for processing and displaying financial

market data corresponding to user selected primary and secondary symbols having a

programmable computer with a display." Lozman, US 5,689,651 Col. 1 lines 64-67) and

("It is still another object of the present invention to provide a system for the real time

processing and displaying of financial market data into a form which increases a trader's

performance." Lozman, US 5,689,651 Col. 1 lines 36-39); and

a set of filter criteria suitable for filtering market data to determine the trading status

information ("The Router Object 202 parses incoming data, filters unwanted data, and

sends data corresponding to the primary and secondary symbols on to a Symbol Object

208-220 and the Calculator Object 204. The Calculator Object 204 monitors the primary

and secondary symbols and calculates a user-determined scalar value or metric based

on them which can be used to signal the Angle of Attack Indicator 82 (FIG. 2)." Lozman,

US 5,689,651 Col. 6 lines 36-43);

an input unit for receiving market data for at least one listing of the stored plurality of

listings, the at least one listing being associated with a specific market place ("A

communication device is connected to the computer for receiving the financial data from

an external data source. The programmable computer includes software that allows the

user to select the primary and secondary symbols from the financial market data."

Lozman, US 5,689,651 col. 1, line 67-Col. 2, line 5);

Lozman fails to explicitly show a processor adapted to filter the received market data in

accordance with the stored set of filter criteria to determine in real-time, whether trading

of the at least one listing has been suspended or resumed at the specific market place;

and

an output unit for providing, in real-time, the status information indicating whether

trading of the at least one listing has been suspended or resumed at the specific market

place.

Broka 5,809,483 teaches "The Authorize Participant window 5100 also allows an

authorizer to set dates and times a participant is suspended from trading and can

resume trading in particular issues by selecting the Times button 5170 from window

5100. In response to the authorizer selecting button 5170, FIPS displays Default Times

window 5300 shown in FIG. 53. The authorizer enters a particular issue in field 5310.

The authorizer then enters a suspend date and time in fields 5321 and 5322,

respectively. A resume date and time may also be entered by the authorizer in fields

5330 and 5331, respectively. The field 5340 displays the current status of the issue. Once the authorizer has entered the desired information, he selects the Add button 5360 for the information to be processed by FIPS host 210." (Broka 5,809,483 col. 24 lines 1-13)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Lozman, US 5,689,651 to include the suspension and resume functions of Broka 5,809,483 483 to maintain a journal log of trade activities ("BQDS journal file containing BQDS message formats, and a Corporate Bond Compliance System (CBCS) log file. The CBCS log file includes trade reports and updates, quotes and updates, trading halts and resumptions, suspensions and activations, participant updates, and dealer registrations." Broka 5,809,483 col. 7 lines 42-47)

As per **claim 27**, Lozman, US 5,689,651 further shows a method of claim 26, wherein the received market data is real-time market data. ("It is still another object of the present invention to provide a system for the real time processing and displaying of financial market data into a form which increases a trader's performance." Lozman, US 5,689,651 Col. 1 lines 36-39)

As per **claim 28**, Lozman, US 5,689,651 further shows a computer system of claim 26, wherein the market place is a financial, stock, derivatives or commodity exchange, ECN or any other market place that generates market data subjected to electronic dissemination ("Turning to FIG. 6, logic begins at start block 310 indicating the

beginning of routine Router Object on Receipt of Data. Test 312 compares the market

data for a specific commodity, stock, bond or currency from the external data source

with the data required for each of the user selected primary and secondary symbols."

Lozman, US 5,689,651 Col. 7 lines 23-28).

As per **claim 29,** Lozman, US 5,689,651 further shows a computer system of claim 26,

wherein the plurality of listings comprises a plurality of dual listings, each dual listing

associated with a primary market place and a secondary market place and traded at the

primary and secondary market places ("The external quote data 200, the data

characterizing financial markets received from the EDS 10 (FIG. 1), is initially processed

by the Router Object 202. The Router Object 202 parses incoming data, filters

unwanted data, and sends data corresponding to the primary and secondary symbols

on to a Symbol Object 208-220 and the Calculator Object 204. The Calculator Object

204 monitors the primary and secondary symbols and calculates a user-determined

scalar value or metric based on them which can be used to signal the Angle of Attack

Indicator 82 (FIG. 2)" Lozman, US 5,689,651 Col. 6 lines 34-43).

As per **claim 30**, Lozman, US 5,689,651 shows a computer system of claim 29, wherein

the at least one listing is a dual listing of the plurality of dual listings associated with a

specific primary market place representing the specific market place ("Once connected,

logic proceeds to block 304 where the system retrieves the market data from the

external data source, whereupon the routine Router Object on Receipt of Data (DATA)

(FIG. 6) is executed. Block 306 ends routine Router Object on Initialization. Turning to

FIG. 6, logic begins at start block 310 indicating the beginning of routine Router Object

on Receipt of Data. Test 312 compares the market data for a specific commodity, stock,

bond or currency from the external data source with the data required for each of the

user selected primary and secondary symbols. Lozman, US 5,689,651 Col. 7 lines 18-

29)

As per **claim 31**, Lozman, US 5,689,651 shows a computer system of claim 30, wherein

the output unit is adapted to provide to the secondary market place, in real-time, ("It is

still another object of the present invention to provide a system for the real time

processing and displaying of financial market data into a form which increases a trader's

performance. It is yet another object of the present invention to provide a system which

periodically updates displayed market data." Lozman, US 5,689,651 Col. 1 lines 36-41)

and ("The program P (see FIG. 4), among other things, continuously receives, stores

and updates specific market information from EDS 10, organizes information, and

efficiently displays in accordance with 'the present invention textual and graphic

information of particular interest to a user." Lozman, US 5,689,651 Col. 3 line 64- col. 4

line 2).

Lozman fails to explicitly show the status information indicating whether trading of the at

least one dual listing has been suspended or resumed at the specific primary market

place.

Broka 5,809,483 teaches "The Authorize Participant window 5100 also allows an authorizer to set dates and times a participant is suspended from trading and can resume trading in particular issues by selecting the Times button 5170 from window 5100. In response to the authorizer selecting button 5170, FIPS displays Default Times window 5300 shown in FIG. 53. The authorizer enters a particular issue in field 5310. The authorizer then enters a suspend date and time in fields 5321 and 5322, respectively. A resume date and time may also be entered by the authorizer in fields 5330 and 5331, respectively. The field 5340 displays the current status of the issue. Once the authorizer has entered the desired information, he selects the Add button 5360 for the information to be processed by FIPS host 210." (Broka 5,809,483 col. 24 lines 1-13)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Lozman, US 5,689,651 to include the suspension and resume functions of Broka 5,809,483 483 to maintain a journal log of trade activities ("BQDS journal file containing BQDS message formats, and a Corporate Bond Compliance System (CBCS) log file. The CBCS log file includes trade reports and updates, quotes and updates, trading halts and resumptions, suspensions and activations, participant updates, and dealer registrations." Broka 5,809,483 col. 7 lines 42-47)

As per **claim 32**, Lozman, US 5,689,651 teaches a computer system of claim 26, wherein the set of filter criteria comprises at least one of:

a filter criteria for filtering the market data ("The Router Object 202 parses incoming data, filters unwanted data, and sends data corresponding to the primary and secondary symbols on to a Symbol Object 208-220 and the Calculator Object 204. Lozman, US 5,689,651 Col. 3 lines 22-30) and a filter criteria for filtering the market data to determine a market type; and

a filter criteria for filtering the market data to determine a data field of the market data to be filtered ("It is a further object of the invention to provide such an exchange that provides filtering (e.g., filtering of bid information) to ensure compliance with predetermined criteria, to avoid unnecessary use of system resources and for other purposes." Lozman, US 5,689,651 Col. 2 lines 43-47).

Lozman fails to explicitly teach a filter criteria for filtering the market data to determine the occurrence of at least one predetermined trading suspension code and

a filter criteria for filtering the market data to determine the occurrence of at least one predetermined trading resume code

Broka 5,809,483 teaches "The Authorize Participant window 5100 also allows an authorizer to set dates and times a participant is suspended from trading and can resume trading in particular issues by selecting the Times button 5170 from window 5100. In response to the authorizer selecting button 5170, FIPS displays Default Times window 5300 shown in FIG. 53." (Broka 5,809,483 col. 24 lines 1-6) and;

"The authorizer enters a particular issue in field 5310. The authorizer then enters a suspend date and time in fields 5321 and 5322, respectively. A resume date and time may also be entered by the authorizer in fields 5330 and 5331, respectively. The field

5340 displays the current status of the issue. Once the authorizer has entered the

desired information, he selects the Add button 5360 for the information to be processed

by FIPS host 210." (Broka 5,809,483 col. 24 lines 7-13);

It would have been obvious to one of ordinary skill in the art at the time of the invention

to modify the invention of Lozman, US 5,689,651 to include a filter criteria for filtering

the market data to determine the occurrence of at least one predetermined trading

suspension code upon suspension of a trade in order to facilitate "Quote management

which is mainly concerned with updating bid and ask prices." Broka   5,809,483 col. 5

lines 46-47)

As per **claim 33**, Lozman, US 5,689,651 further shows a computer system of claim 26,

wherein the market data comprises a first plurality of codes from a multiplicity of

available codes and at least one filter criteria of the set of filter criteria comprises a

second plurality of codes from the multiplicity of available codes, and wherein the

processor is adapted to compare the codes of the first plurality of codes with the codes

of the second plurality of codes to determine whether a match occurs ("The external

quote data 200, the data characterizing financial markets received from the EDS 10

(FIG. 1), is initially processed by the Router Object 202. The Router Object 202 parses

incoming data, filters unwanted data, and sends data corresponding to the primary and

secondary symbols on to a Symbol Object 208-220 and the Calculator Object 204. The

Calculator Object 204 monitors the primary and secondary symbols and calculates a

user-determined scalar value or metric based on them which can be used to signal the

Angle of Attack Indicator 82 (FIG. 2)" Lozman, US 5,689,651 Col. 6 lines 34-43).

As per **claim 34**, Lozman, US 5,689,651 teaches a computer system of claim 33

Lozman fails to explicitly teach that the codes of the second plurality of codes are

trading suspension codes.

Broka 5,809,483 teaches "The Authorize Participant window 5100 also allows an

authorizer to set dates and times a participant is suspended from trading and can

resume trading in particular issues by selecting the Times button 5170 from window

5100. In response to the authorizer selecting button 5170, FIPS displays Default Times

window 5300 shown in FIG. 53." (Broka 5,809,483 col. 24 lines 1-6).

It would have been obvious to one of ordinary skill in the art at the time of the invention

to modify the invention of Lozman, US 5,689,651 to include the suspension and resume

functions of Broka 5,809,483 483 to maintain a journal log of trade activities ("BQDS

journal file containing BQDS message formats, and a Corporate Bond Compliance

System (CBCS) log file. The CBCS log file includes trade reports and updates, quotes

and updates, trading halts and resumptions, suspensions and activations, participant

updates, and dealer registrations." Broka 5,809,483 col. 7 lines 42-47)

As per **claim 35**, Lozman, US 5,689,651 teaches a computer system of claim 33,

Lozman, US 5,689,651 fails to explicitly teach that the codes of the second plurality of

codes are trading resume codes

Broka 5,809,483 teaches "The authorizer enters a particular issue in field 5310. The authorizer then enters a suspend date and time in fields 5321 and 5322, respectively. A resume date and time may also be entered by the authorizer in fields 5330 and 5331, respectively. The field 5340 displays the current status of the issue. Once the authorizer has entered the desired information, he selects the Add button 5360 for the information to be processed by FIPS host 210." Broka 5,809,483 col. 24 lines 7-13).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Lozman, US 5,689,651 to include the suspension and resume functions of Broka 5,809,483 483 to maintain a journal log of trade activities ("BQDS journal file containing BQDS message formats, and a Corporate Bond Compliance System (CBCS) log file. The CBCS log file includes trade reports and updates, quotes and updates, trading halts and resumptions, suspensions and activations, participant updates, and dealer registrations." Broka 5,809,483 col. 7 lines 42-47)

As **per claim 36**, Lozman, US 5,689,651 shows a computer system of claim 26, wherein the market data comprises a first plurality of codes from a multiplicity of available codes, at least one filter criteria of the set of filter criteria comprises a second plurality of codes from the multiplicity of available codes and at least one filter criteria of the set of filter criteria comprises a third plurality of codes from the multiplicity of available codes, and wherein the processor is adapted to compare the codes of the first plurality of codes with the codes of the second and third pluralities of codes to determine whether a match occurs ("The Router Object 202 parses incoming data,

filters unwanted data, and sends data corresponding to the primary and secondary symbols on to a Symbol Object 208-220 and the Calculator Object 204. The Calculator Object 204 monitors the primary and secondary symbols and calculates a user-determined scalar value or metric based on them which can be used to signal the Angle of Attack Indicator 82 (FIG. 2)." Lozman, US 5,689,651 Col. 6 lines 36-43).

As per **claim 37**, Lozman, US 5,689,651 teaches computer system of claim 36.

Lozman, US 5,689,651 fails to explicitly teach that the codes of the second plurality of codes are trading suspension codes and the codes of the third plurality of codes are trading resume codes

Broka 5,809,483 teaches "The Authorize Participant window 5100 also allows an authorizer to set dates and times a participant is suspended from trading and can resume trading in particular issues by selecting the Times button 5170 from window 5100. In response to the authorizer selecting button 5170, FIPS displays Default Times window 5300 shown in FIG. 53." (Broka 5,809,483 col. 24 lines 1-6) and "The authorizer enters a particular issue in field 5310. The authorizer then enters a suspend date and time in fields 5321 and 5322, respectively. A resume date and time may also be entered by the authorizer in fields 5330 and 5331, respectively. The field 5340 displays the current status of the issue. Once the authorizer has entered the desired information, he selects the Add button 5360 for the information to be processed by FIPS host 210." "Broka 5,809,483 col. 24 lines 7-13)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Lozman, US 5,689,651 to include the suspension and resume functions of Broka 5,809,483 483 to maintain a journal log of trade activities ("BQDS journal file containing BQDS message formats, and a Corporate Bond Compliance System (CBCS) log file. The CBCS log file includes trade reports and updates, quotes and updates, trading halts and resumptions, suspensions and activations, participant updates, and dealer registrations." Broka 5,809,483 col. 7 lines 42-47)

As per **claim 38**, Lozman, US 5,689,651 further shows a computer system of claim 26, wherein the market data comprises a plurality of codes from a multiplicity of available codes and each filter criteria of the set of filter criteria comprises a subset of codes from the multiplicity of available codes, wherein the processor is adapted to compare the codes of the plurality of codes with each subset of codes to determine whether a match occurs; and the output unit is adapted to send an alert message to the specific market place indicating that an unknown code has been received if, for a specific code of the plurality of codes, no match occurs ("Turning to FIG. 6, logic begins at start block 310 indicating the beginning of routine Router Object on Receipt of Data. Test 312 compares the market data for a specific commodity, stock, bond or currency from the external data source with the data required for each of the user selected primary and secondary symbols. Block 314 determines the results of the comparison. If the data from the external data source is not required by either of the primary or secondary

symbols, the information is ignored or filtered out of the system." Lozman, US 5,689,651

Col. 7 lines 24-33).

As per **claim 39**, Lozman, US 5,689,651 shows a computer system of claim 38, wherein

the input unit is further adapted to receive an update message from the specific market

place indicating the meaning of the specific code of the plurality of codes; and the

processor is further adapted to update the multiplicity of available codes using the

update message ("If the data from the external data source is required by either the

primary or secondary symbols, the Symbol Object routine shown in FIGS. 7 and 8 is

executed via block 316. If the data is not required or upon returning from Symbol Object

routine, Block 318 permits the system to continue checking the external market data

until all the information required by the primary and secondary symbols has been

received. If block 318 determines all the information has been received, the Calculator

Object routine shown in FIGS. 11, 12 & 13 is executed by block 320. Block 322 ends

routine Router Object on Receipt of Data (DATA)." Lozman, US 5,689,651 Col. 7 lines

32-42) and ("On Initialization: Locate my "External Data Source" Tell "External Data

Source" to send updates by calling my method ::On Receipt of Data On receipt of Data

(DATA): For each Symbol Object OBJ call OBJ::Receipt of Data (DATA) Locate my

"Calculator Object" CALC call CALC::On Receipt of Data (DATA)")." Lozman, US

5,689,651 Col. 7 lines 3-13)

As per **claim 40**, Lozman, US 5,689,651 teaches computer system of claim 26.

Lozman, US 5,689,651 fails to explicitly teach that the processor is adapted to qualify

the received market data to determine accuracy and correctness of the received market

data

Broka 5,809,483 teaches "Accordingly, a regulated, computerized bond trading system

has been developed to gather quote and trade information from several bond traders

and other users, and to organize and disseminate such information quickly and reliably."

(Broka 5,809,483 col. 1 lines 56-60)

It would have been obvious to one of ordinary skill in the art at the time of the invention

to modify the invention of Lozman, US 5,689,651 to include a processor adapted to

qualify the received market data to determine accuracy and correctness of the received

market data of Broka 5,809,483 in order to avoid "relying on potentially outdated

information transmitted by unreliable communication methods. As a result, the system is

prone to errors and abuses." Broka 5,809,483 col. 1 lines 22-24).

As per **claim 41**, Broka 5,809,483 further teaches the computer system of claim 40,

wherein the processor is further adapted to determine, whether a listing of the plurality

of listings has been renamed ("In either window, the display is preceded by host 210

retrieving the Symbol, Name, Rate, and Maturity Year for the issue selected from the

Quote Book window 2000 or 2020. If the quote being modified is a bid, FIPS sets the

price, size, and status for a bid label, such as label 2101 in FIG. 21(a)." Broka 5,809,483

col. 15 lines 26-31).

It would have been obvious to one of ordinary skill in the art at the time of the invention

to modify the invention of Lozman, US 5,689,651 to include a processor of Broka

5,809,483 further adapted to determine whether a listing of the plurality of listings has

been renamed in order to allow the user to view all of the active quotes in a particular

issue" Broka 5,809,483 col. 14 lines 38-39).

As per **claim 42**, Lozman, US 5,689,651 teaches computer system of claim 26.

Lozman, US 5,689,651 fails to explicitly show that the processor is adapted to monitor

market data supply of at least one selected market place to determine an occurring

supply outage; and the output unit is adapted to provide in real-time, if a supply outage

occurs, a corresponding indication of the occurring supply outage.

Broka 5,809,483 teaches "More specifically, system for reporting the trading of debt

issues has been developed which comprises a host processing system containing issue

databases having information about debt issues available to be traded, and trade

databases containing data about trades of the debt issues available to be traded;"

(Broka 5,809,483 col. 1 lines 61-64)

It would have been obvious to one of ordinary skill in the art at the time of the invention

to modify the invention of Lozman, US 5,689,651 to include the processor adapted to

monitor market data supply of at least one selected market place to determine an

occurring supply outage; and the output unit is adapted to provide in real-time, if a

supply outage occurs, a corresponding indication of the occurring supply outage .in

order to "provide an on-line system for trading securities which greatly enhances the

transparency of the stock market, and thus improves the ability of traders to receive

accurate and timely trade information." Broka 5,809,483 col. 1 lines 37-42)

As per **claim 43**, Broka 5,809,483 further teaches a computer system of claim 42,

wherein the processor is further adapted to monitor index information for the at least

one selected market place; and to determine that a supply outage occurs, if the index

information is not received via the input unit within a predetermined time interval

"Window 1200 allows dealers to input the necessary information about a trade, including

quantity, price, the other party to the trade, the type of trade, the execution date and

time of the trade, and the capacity of the dealer." (Broka 5,809,483 col. 11 lines 36-40)

It would have been obvious to one of ordinary skill in the art at the time of the invention

to modify the invention of Lozman, US 5,689,651 to include the processor is further

adapted to monitor index information for the at least one selected market place; and to

determine that a supply outage occurs, if the index information is not received via the

input unit within a predetermined time interval to "provide an on-line system for trading

securities which greatly enhances the transparency of the stock market, and thus

improves the ability of traders to receive accurate and timely trade information." Broka

5,809,483 col. 1 lines 37-42)

As per **claim 44**, Lozman, US 5,689,651 shows a computer system of claim 26, further

comprising: a display device for displaying, in real-time, ("It is still another object of the

present invention to provide a system for the real time processing and displaying of

financial market data into a form which increases a trader's performance." Lozman, US

5,689,651 Col. 1 lines 36-39).

Lozman, US 5,689,651 fails to specifically show the status information indicating

whether trading of the at least one listing has been suspended or resumed at the

specific market place

Broka 5,809,483 teaches "The Authorize Participant window 5100 also allows an

authorizer to set dates and times a participant is suspended from trading and can

resume trading in particular issues by selecting the Times button 5170 from window

5100. In response to the authorizer selecting button 5170, FIPS displays Default Times

window 5300 shown in FIG. 53." (Broka 5,809,483 col. 24 lines 1-6) and;

"The authorizer enters a particular issue in field 5310. The authorizer then enters a

suspend date and time in fields 5321 and 5322, respectively. A resume date and time

may also be entered by the authorizer in fields 5330 and 5331, respectively. The field

5340 displays the current status of the issue. Once the authorizer has entered the

desired information, he selects the Add button 5360 for the information to be processed

by FIPS host 210." (Broka 5,809,483 col. 24 lines 7-13);

It would have been obvious to one of ordinary skill in the art at the time of the invention

to modify the invention of Lozman, US 5,689,651 to show the status information

indicating whether trading of the at least one listing has been suspended or resumed at

the specific market place since "Some of the external data files associated with FIPS

are a Standard & Poor's file, such as file 300, in FIG. 3, CTCI input and output files for

communication with users' computers, a BQDS journal file containing BQDS message

formats, and a Corporate Bond Compliance System (CBCS) log file. The CBCS log file includes trade reports and updates, quotes and updates, trading halts and resumptions, suspensions and activations, participant updates, and dealer registrations." Broka 5,809,483 col. 7 lines 39-47)

As per **claim 45**, Lozman, US 5,689,651 teaches computer system of claim 26.

Lozman, US 5,689,651 fails to explicitly show a processor further adapted to create a pop-up window for displaying the alert message therein, the pop-up window being adapted to be closed only in response to user interaction, the pop-up window for display on the display device.

Broka 5,809,483 teaches "Preferably, a user interfaces with the FIPS host 210 through a standard GUI on the workstations 230 and 240. The GUI provides an easy-to-use system having only the information to which the user is entitled based on its role. This section describes the various user message windows for interfacing to the FIPS system." (Broka 5,809,483 col. 10 lines 36-41)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Lozman US 5,689,651 to include a processor further adapted to create a pop-up window for displaying the alert message therein, the pop-up window being adapted to be closed only in response to user interaction, the pop-up window for display on the display device in order to provide information about what the workstation is doing. Question/warning messages warn users of potential errors and perform a

"double check" with the user before an action takes place by requiring acknowledgment or rejection before the action may take place. (Broka 5,809,483 col. 10 lines 46-50)

As per **claim 46,** Lozman, US 5,689,651 teaches computer system of claim 26.

Lozman, US 5,689,651 fails to explicitly show a speaker unit for performing an audible alert if it is determined that trading of the at least one listing has been suspended at the specific market place

Broka 5,809,483 teaches "Users are also alerted to any newsworthy information by the Broadcast News Alert window. This window automatically appears after an administrative user generates a news message by any of the following actions: modifying the status of an issue; modifying the status of a user; and comparing a news message. The Broadcast News Alert Window displays only the most recent news message." (Broka 5,809,483 col. 20 lines 25-30)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Lozman US 5,689,651 to include a speaker unit for performing an audible alert if it is determined that trading of the at least one listing has been suspended at the specific market place for the purpose of "alerting users to any newsworthy information by the Broadcast News Alert window" (Broka 5,809,483 col. 20 lines 25-26)

As per **claim 47,** Lozman, US 5,689,651 teaches computer system of claim 26.

Lozman, US 5,689,651 fails to explicitly show a processor further adapted to attach a flag to the received market data indicating a suspension of the at least one listing, if it is determined that trading of the at least one listing has been suspended at the specific market place

Broka 5,809,483 teaches "The issues symbol information in issue table 732 is for issue timer 733, participant issue suspension table 725 and participant issue timer 724." (Broka 5,809,483 col. 10 lines 8-13)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Lozman US 5,689,651 to include a processor further adapted to attach a flag to the received market data indicating a suspension of the at least one listing, if it is determined that trading of the at least one listing has been suspended at the specific market place to facilitate "Quote management which is mainly concerned with updating bid and ask prices." Broka   5,809,483 col. 5 lines 46-47)

As per **claim 48**, Lozman, US 5,689,651 further shows a computer system of claim 26, wherein the output unit is adapted to provide a real-time market data information stream comprising the status information ("The present invention is directed to a specifically programmed computer display system to improve a trader's performance in security or commodity transactions. The system is integrated with an on-line, real time, securities or commodities related information database managed by an external organization. It is from this database that vital information on past and current market conditions is continuously communicated to the system." Lozman, US 5,689,651 Col. 3 lines 23-29).

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure:

Odom (US 6,058,379) shows a method for networked exchange comprises the steps of

specifying a mode of operations for an exchange, identifying a commodity for the

exchange, listing information about the commodity, accessing of the listing by a

potential purchaser, accessing the network-based exchange by the potential purchaser,

processing information generated by the potential purchaser comprising a negotiation,

concluding the negotiation and clearing the concluded negotiation.

Ginsberg (US 5,774,880) shows a data processing system receiving a continuous

stream of real time transactional data regarding market transactions of fixed income

securities. The incoming data is qualified and then used to determine the term structure

of interest rates based on price information. The system provides linear interpolation

techniques to complete an operative data set. This set is updated with current trade

data, with term structure shifting using pivot points from newly qualified data. An index

value for a pre-select portfolio of securities is then calculated and expressed in terms of

price relative to par, yield to maturity and duration

Korhammer (US 6,278,982 B1) shows a securities trading consolidation system where each customer uses a single trader terminal to view, and analyze security market information from and to conduct security transactions with two or more ECNs, or other comparable ATSs, alone or in combination with one or more electronic exchanges. A consolidating computer system supplies the market information and processes the transactions. The consolidating computer system aggregates order book information from each participating ECN order book computer including security, order identification, and bid/ask prices information. Bid and ask prices for participating electronic exchanges may be integrated into the display. The combined information is displayed to a customer by security and by bids and offers, and then sorted by price, volume and other available attributes as desired by the customer. The consolidating computer system forwards to each trading terminal information from only those market maker ECNs and electronic exchanges that the customer is an ECN member or electronic exchange user and thus entitled to receive.

Knapman (US 6,298,455 B1) shows a publish/subscribe data processing broker network having a plurality of broker data processing apparatuses, each of which has an input for receiving published messages directly from a publisher application and/or receiving subscription data directly from a subscriber application, and each of which having a means for receiving a published message on a first topic and assigning a broker-specific sequence number to the received message; a first broker apparatus has: a software unit for determining a failure of a neighboring broker apparatus which has

provided published messages on the first topic to the first broker apparatus; and a software unit for sending historic re-subscriptions with respect to the first topic to each antecedent broker apparatus of the failed neighboring broker apparatus by using the broker-specific sequence number corresponding to each antecedent broker apparatus.

Lee (2002/0165844) shows a system and method for configuring sell bids. The system and method uses rules and inference engines in order to configure sell bids in view of Request for Quotes (RFQ). The system and method includes a data aggregator that integrates data from two or more enterprise data sources into an aggregated enterprise database and a knowledge base generator that constructs a knowledge base by extracting at least facts and rules from the aggregated enterprise database and stores the facts and rules in a knowledge base database. A bid configurator constructs one or more sell bid candidates for one or more target RFQs by using at least one inference engine and the extracted facts and rules from the knowledge base database.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gerald C. Vizvary whose telephone number is 571-270-3268. The examiner can normally be reached on Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Trammel can be reached on 571-272-6712. The fax phone number for the organization where this application or proceeding is assigned is 571-270-4268.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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